

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000708**Date Inspected:** 20-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Ye Yongjun, Huo Jing Yao, Li Gao			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>

**Bridge No:** 34-0006**Component:** 89 meter mock-up, Shape material**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

**89M mock-up Horizontal Beam Plate:**

QA Inspector Brannon randomly observed ZPMC qualified welder's Mr. Wang Zhonghua ID#053753 and Mr. Dai Lu ID#048659 groove welding a complete joint penetration (CJP) weld piece #SA24 to p913 weld joint #9B and piece # SA24 to p913 weld joint #10A, respectively for sub assembly MUB-MA21. Mr. Zhonghua and Mr. Lu was observed welding in the 1G (flat) position utilizing a shielded metal arc welding (SMAW) process with a 4.8mm diameter electrode, filler metal brand Excalibur 9018M MR, class E9018-HuR, manual. QA Inspector Brannon observed the ZPMC QC Inspector Xu Lefeng and Bureau Veritas Mr. Huo Jing Yao verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 160°C and measured the welding parameters to be 190/196 amps respectively. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-3211-TC-U5B, Revision 1.

**89M mock-up Diaphragm:**

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Han Xiaofeng ID #054467 groove welding joining edge/flange plate to diaphragm plate weld joint #71, sub assembly MA27. Mr. Xiaofeng was observed welding in the 2G (horizontal) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand TL-508, class E7018 manual. QA Inspector Brannon observed the ZPMC

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## WELDING INSPECTION REPORT

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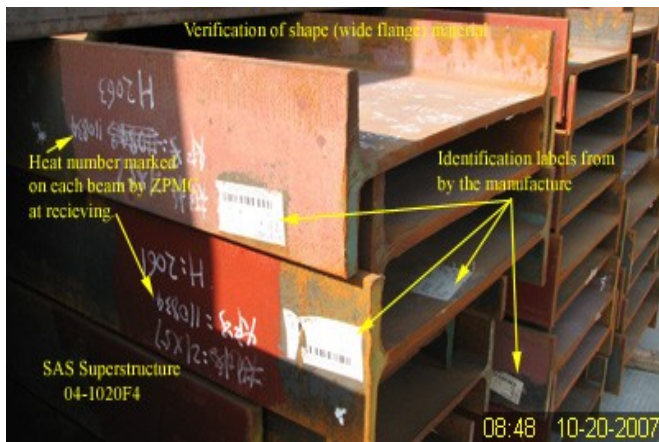
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QC Inspector Xe Lefeng and Bureau Veritas Mr. Li Gang verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 110°C and measured the welding parameters to be 170 amps. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-4312-TC-P4-1, Revision 0.

### Inspection of Shape Material (OBG):

Quality Assurance (QA) Inspector Brannon received shape (wide flange beam) material list for batch #2, shape list No. 1-8 received from American Bridge/Fluor (ABF). QA Inspector Brannon went to the ZPMC material storage yard accompanied by ZPMC Quality Control Mr. Xu Jun. QA Inspector Brannon performed random verification of a total of 423 shapes for batch #2. The shapes were observed for their identification tags, general condition and markings. Shape material thicknesses range from 18mm to 21mm. The shapes were designated as W18x46x10500 and W21x57x10500 Grade A709 Gr50. Shape material list for batch #2 was accompanied with material test reports (MTR's) and additional testing reports for Charpy Vee-Notch (CVN) and Fine Grain Practice. The MTR's and additional test reports could not be reviewed on this date and will be reviewed at the earliest opportunity. QA Inspector Brannon assigned lot number B22-057-07 to the 423 shapes observed on this date.

The following digital photographs below illustrate observations of the activities being performed.



### Summary of Conversations:

No relevant conversations on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Brannon, Sherri

Quality Assurance Inspector

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**Reviewed By:** Cuellar, Robert

QA Reviewer